

## **REMARKS**

Claims 1, 19, 20, 22, 23-35 and 40-46 are currently pending. Claims 2-18, 21 and 36-39 were previously cancelled. Claim 42 is amended to add the trademark symbol in response to the Examiner's objection. Support for new claims 43-46 can be found, for example, in the Figures. No new matter is added.

## **Rejection of Claims under 35 U.S.C. 103**

Claims 1, 19, 20, 22-35 and 40-42 stand rejected under 35 U.S.C. 103(a) for being allegedly rendered obvious over U.S. Patent Publication No. 2002/0077687 to Ahn ("Ahn") in view of US Patent 5,662,619 to Zarate ("Zarate").

Ahn describes a catheter assembly for implanting cellular pellets into diseased or damaged heart muscle tissue (abstract). Ahn does not disclose a "channel containing a shear thickening fluid having therapeutic properties, the channel configured to expose the shear thickening fluid to a viscosity adjuster," as claimed. The Examiner refers to a "cell suspension of viscous fibrin" as a shear thickening fluid, however just because a fluid is viscous does not mean that it is shear thickening. In fact, if a fluid is initially viscous, there is no need to thicken it any further by shear forces. Ahn makes no mention of any shear-thickening fluid. A shear thickening fluid increases in viscosity as the shear stress of shear rate in the fluid increased. Although the fluid in Ahn may be viscous, the viscosity is not altered during delivery. Furthermore, there is no viscosity adjuster in the channel of Ahn and there is no teaching or suggestion to add one. The Examiner attempts to cure these deficiencies with Zarate.

Zarate describes a dialysis needle that includes lateral openings (20) and diverters (18) for **decreasing** the velocity, turbulence, and shear stress the increased flow of blood causes during dialysis (col 1, lines 34-36, emphasis added). The diverters 18 extend into the lumen to divert blood out of the lateral openings. Thus, the diverters in Zarate, together with the lateral openings, are intended to *decrease* shear stress. The viscosity adjusters in the present invention are intended to *increase* shear stress to change the viscosity of the fluid. Furthermore, the fluid in Zarate is blood, which is not a shear-

*thickening* fluid. Thus, the alleged combination of Ahn and Zarate fails to disclose all the limitations of claims 1 and 19, and all claims dependent therefrom.

Furthermore, there is no motivation to combine Ahn and Zarate. The Examiner states that “it would have been obvious to include the projections of Zarate with the needle of Ahn in order to add a mechanism for even injection distribution through the needle orifice (near 51)” (Office Action, page 4). However, one of ordinary skill in the art would not add the diverters 18 of Zarate to the catheter of Ahn. The diverters of Zarate are meant to divert fluid out of lateral openings located adjacent to the diverters. Since there are no lateral openings in the catheter of Ahn, there is no reason to add lateral openings, and references provide no motivation for adding diverters to Ahn. Furthermore, the diverters would not allow for even injection distribution because they would impede the delivery of an already viscous fluid. Thus, Applicants respectfully request withdrawal of this rejection.

### **Conclusion**

Although no fees are believed to be due, the Office may charge any additional fees required, or credit any overpayments, to Deposit Account No. 11-0600.

The Examiner is invited to contact the undersigned at 202-220-4200 to discuss any matter regarding this application.

Respectfully submitted,

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